

for the group, but this is a *nomen rejiciendum* in favor of the famous gymnospermous *Welwitschia* Hooker f., Gard. Chron. 1862: 71. 1862. According to both Macbride and Craig, the next generic name is *Eriastrum* Wooton & Standley, Contr. U. S. Nat. Herb. 16: 160. 1913, which was substituted for *Hugelia* Bentham 1833 on the ground that De Candolle had used *Hugelia* in 1830. The fact that in DC. Prod. 4: 72. 1830, *Hugelia* Reichenbach was cited in synonymy does not affect the validity of Wooton & Standley's generic name.

This study was undertaken at the instance of Prof. Edgar T. Wherry, who in connection with review of the Polemoniaceae of certain western states desired to use names for taxonomic groups in accordance with current rules of nomenclature.

Conclusion: *Hugelia* Bentham, 1833 (Polemoniaceae), is preoccupied by *Hügelia* Reichenbach, 1828–1830 (Umbelliferae). The proper name for the polemoniaceous genus, provided it be deemed worthy of generic rank, is *Eriastrum* Wooton & Standley, 1913.

ENTOMOLOGY.—*The genus Ferdinandea Rondani*.¹ FRANK M. HULL, University of Mississippi. (Communicated by ALAN STONE.)

The genus *Ferdinandea* comprises a small group of closely related species of flies of the subfamily Cheilosinae from the Holarctic region and as far south as Sumatra. None are known from South America, the Ethiopian region, or Australia. There are 14 described species, including those of this study. Eight dipterists have described the known species, and the European species have been frequently redescribed.

In this genus the opacity of the abdomen varies; almost all species, with the exception of *montana*, n. sp., are partly or wholly metallic; the hyalinity of the wing varies from unspotted in *isabella*, described in this paper, to characteristic tiny clouds upon the cross veins or larger subtriangular clouds, as in three species. These flies are well equipped with long bristles upon the thorax but vary in the number of scutellars, prescutellars, and especially notopleurals, as pointed out by Shannon. There is a certain amount of variation in the large thoracic bristles, and sometimes the number on the two respective sides of the same individual differs. In some individuals one member of a pair of bristles may be quite weak. Other characters concern the color of the antennae and arista, the color of the legs, and the diffuse and obscure spot sometimes found upon the face. There is a series of two to seven tiny microbristles found upon the radial sector of the wing.

The following key is based upon my study of nine species and upon the descriptions and figures of the others:

KEY TO THE DESCRIBED SPECIES
OF *FERDINANDEA*

1. Segments of abdomen entirely bright brassy colored, without any trace of darker posterior borders. Thorax with four notopleural bristles on each side, in groups of two; rarely with fewer. 2
Abdomen usually metallic, always with darker posterior borders (not necessarily opaque) upon some of segments; two or three notopleural bristles present, very rarely if ever with four. 4
2. Wing with cross veins definitely clouded, occasionally faint. 3
Wing without trace of clouds anywhere; only stigmal base brownish and wing uniformly pale yellowish brown. Four notopleural bristles, four scutellars, and four prescutellars; radial sector with two microbristles (India). *isabella*, n.sp.
3. Four notopleural bristles; an obscure facial vitta present, which is sometimes only a spot upon tubercle; femur wholly yellowish or its basal half brown; four pairs of scutellars, one weak pair of prescutellars, five or six microbristles (western United States). *croesus* O. S.
Two or three notopleurals, or irregular upon the two sides; femur wholly pale yellow; face yellow, tubercle faintly brown, cheek spot barely indicated; scutellum with five pairs of bristles (Arizona). *croesus* var. *midas*, n.var.
4. Abdomen yellowish brown, nonmetallic; at least second and third segments with black, wedgelike spots; cross veins of wing without brown clouds; antennae wholly black. Thorax with three pairs of

¹ Received January 1942.

- notopleurals, five scutellars, and one pair of prescutellars; seven microbristles present (India).....*montana*, n.sp.
Abdomen partly or largely metallic, with dark posterior borders; wing almost always clouded, at least upon cross veins. 5
5. Wing with a brownish cloud or a triangle lying on and below stigma.....6
Wing with only cross veins clouded.....8
6. Three pairs of notopleural bristles; arista reddish basally, darker apically; postmargins of second and third abdominal segments black; petiole beyond first posterior cell shorter than discal cross vein. Face yellow, pollinose, and pilose except upon brown tubercle; femora brown, yellowish apically, anterior tibia brownish (Oregon, New Mexico).....*aeneicolor* Shannon
Not such flies.....7
7. A strong brown cloud below stigma of wing; antenna reddish, arista brown; scutellum brownish red, black pilose, with five pairs of scutellars and four prescutellars (Malaya).....*maculipennis* Curran
A weak brown cloud beneath stigma; third antennal joint brownish black; scutellum waxy yellow (Sumatra).....*sumatranus* de Meij.
Abdomen short and broad, highly shining purplish bronze, hind border of segments 2 and 3 shining blackish; spots on cross veins of wings faint or absent (Formosa).....*formosanus* Shiraki
Abdomen relatively slender, the cross bands subopaque or at least dull; cross vein wing spots usually conspicuous...9
9. At least base of arista pale in color, often thickened and microscopically pubescent.....10
Arista wholly blackish or brownish black, rather slender.....13
10. Pile of front and vertex chiefly black; mesonotum with some black pile; dull abdominal bands premarginal, posterior margins brassy (Europe, from Sweden to Spain and Italy)....*ruficornis* Rondani
Pile of front and mesonotum pale yellow, at most light brown. Two pairs of notopleural bristles.....11
11. Three pairs of black scutellar bristles, a single pair of weak prescutellars, and five microbristles on wing (Virginia, New Jersey, Pennsylvania, New York).....*buccata* Loew
Four or five pairs of scutellar bristles; face with a brownish-black V in middle; vertical stripes of pubescence rather wide...12
12. Legs yellow; cross veins strongly clouded, seven microbristles on wing; arista black tipped, longer than antenna. Four and sometimes five scutellars and four weak prescutellars (New Jersey, Ohio, Pennsylvania, Massachusetts, New Hampshire, Connecticut, Mississippi).....*dives* O.S.
Hind legs with femur brownish black on its basal half, cross veins weakly clouded; arista wholly pale, thick basally, as long as antenna; four scutellars, four very weak prescutellars, and five or six microbristles (New York, New Hampshire, Massachusetts).....*nigripes* O.S.
13. Face with a blackish middle stripe or at least a dark central spot; thorax with four gray vittae (southern Europe).....*aurea* Rondani
Face wholly reddish yellow; if brown upon the tubercle there are only two gray stripes on thorax.....14
14. Vertex entirely black; thorax greenish black with four gray vittae; four notopleurals, five pairs of scutellars, four strong prescutellars, six microbristles present; frontal and mesonotal pile black (Japan, Europe from Sweden and Finland to Italy).....*cuprea* Scop.
Vertex yellow; thorax purplish black with two gray stripes (Bulgaria, Hungary).....*sziladyi* Drensky

Ferdinandea croesus Osten Sacken var.
midas, n. var.

An individual from southern Arizona shows several differences from northwestern specimens of *croesus* O. S. in my collection. In this fly there are only two notopleurals on one side and three upon the other. The scutellum has five pairs of bristles, and there are only four in northwestern specimens. The femur is wholly pale yellow. The face is yellow, with the tubercle showing faintly brown; the cheek spot is barely indicated.

Type: One male, southern Arizona; author's collection.

Ferdinandea montana, n. sp.

Male: Length 12 mm; wing 11 mm. *Head*: Eyes quite pilose, the vertex gray-pollinose with long, gray bristly hairs. Occiput gray-pollinose with pale silvery pile, rather short above, longer below. Front densely silvery-gray pollinose, a bare black lunule above the antennae on each side. Face wholly pale yellowish pubescent or pollinose, continuing upon the cheeks; everywhere pale yellow in ground color except for the median brown stripe and tubercle and the slender brown band dividing the face from the cheeks. Pile of cheeks and upper sides of face pale, shining yellow, upon the front

black. Antenna dark blackish brown, the third joint rather large, slightly subquadrate, the arista long and black. *Thorax*: Dully shining grayish black with four stripes of light greenish-gray pollen; the middle pair broad, running to the base of the scutellum and in some lights divided into an inner and outer pair, the inner pair narrower and present only on the anterior half of the thorax. Humeri light brownish yellow, yellow-pollinose; humerus and pleuron and a narrow band along the anterior margin of the mesonotum, again upon the postcallus, the ventral margin and lateral corners of the scutellum all yellow-pilose. Pile of dorsum chiefly long, slender, black, and erect, with some shorter, golden pile. There are three extremely long black bristles on the sides before the suture, four on the sides of the thorax behind the suture and anterior to the posterior calli; a single bristle diagonally in front of the posterior calli, a pair of bristles in front of the scutellum, three bristles upon each posterior callus and five pairs upon the scutellum. Scutellum large, pale yellow, subtranslucent, black bristly pilose. *Abdomen*: Grayish yellow, subtranslucent on the first segment and middle and base of second segment, elsewhere on the abdomen clear, light brownish yellow, with a median blackish vitta on each of the second, third, and fourth segments that does not reach the posterior margin. Pile of abdomen chiefly light golden-yellow, long and bushy on the sides of the segments, rather flat and appressed along the posterior margins of second, third, and fourth segments and somewhat less appressed in the middle of these segments. *Legs*: Almost wholly pale yellow, the base of both the middle and anterior femur, dorsally and anteriorly, narrowly brown in color. Posterior femur rather slender. There are a few blackish bristles but not spines upon the apical fourth of the outer, lateroventral portion of the femur. There is a pair of bristles near the middle on the lateral surface of both hind and midtibiae. *Wings*: Pale brown, stigmal cell brownish yellow, a series of seven tiny bristles on the basal part of the second and third longitudinal vein.

Holotype: One male, Kashmir, Gulmarg, 8,500 feet, summer, 1913. Lt. Col. F. W. Thomson, 1914-12; three paratypes, females, same data. Type in the British Museum; paratypes in author's collection.

Ferdinandea isabella, n. sp.

Female: Length 11 mm; wing 10 mm. *Head*: Vertex and occiput yellowish-brown pollinose. Front shining black, with more or less gray pollen, narrowly brown along the margin in front of the antennae. The whole face and cheeks are light, clear yellow, slightly more brownish red about the tubercle and the posterior part of the cheeks. Face broadly covered with pale yellowish pubescence. Antenna large, light brownish red, the third joint darker above, about as long as wide and broadly rounded; the arista blackish. Eyes moderately pilose. *Thorax*: Shining brassy-black, with four stripes of grayish pollen. Pleuron blackish, dusted with grayish pollen and with brassy pile. Humeri light yellow, yellowish pollinose and pilose. There is long yellow pile continued narrowly along the edge of the thorax, along the calli and the basal corners and ventral margin of the scutellum. Pile of thorax chiefly fine, bristly, and black, with some pale pile intermixed. Scutellum large, clear, translucent yellow, short, black, bristly pilose; three long black bristles on the upper part of the mesopleuron, two others between the mesopleuron and the suture, a pair just behind each humerus, two on the sides of the thorax just above the wing, three on each postcallus, one in front of each postcallus, four in front of the scutellum, and four pairs on the scutellum. *Abdomen*: Broadly oval, wider than the thorax, wholly brilliant, shining golden-brown, covered everywhere with golden pile, somewhat appressed and conspicuous along the posterior margins of the segments. *Legs*: Pale yellow. The anterior and middle femur are each narrowly brownish near the base. The hind femur is quite slender, blackish, bristly pilose on the lateral and dorsal surfaces; its apical third is without spines. The basal and dorsal third of hind tibia and its apex are black bristly pilose. *Wing*: Pale brown, stigmal cell brownish yellow, the area about the stigma a little thickened and brownish. Base of second and third longitudinal vein with two slender delicate black bristles.

Holotype: One female. Kashmir, Gulmarg, 8,500 feet, summer 1913, Lt. Col. F. W. Thomson, 1914-182. Type in the British Museum.